

# W5YI

## America's Oldest Ham Radio Newsletter REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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Vol. 24, Issue #19

\$1.50

PUBLISHED TWICE A MONTH

October 1, 2002

## Selling Commercial Spectrum to Others at 220-222 MHz

On March 9, 2000, the FCC adopted rules creating a new class of commercial FCC license called the "guard band" license. The new rules govern the operation of 6 MHz of "Guard Band" spectrum in the 700 MHz band previously allocated to UHF-TV.

The Guard Band Manager is a new class of commercial licensee who is engaged in the business of subdividing spectrum they acquire at auction in any manner it chooses and leasing it directly to third parties, including both commercial service providers and private wireless users for fixed or mobile communications.

According to the FCC, Guard Band Manager licensees have many potential benefits, including:

- (1.) providing for market-based transactions in wireless capacity at a time when access to spectrum is a critical need for a wide variety of wireless operations;
- (2.) spectrum users will have more flexibility in obtaining access to the amount of spectrum, in terms of quantity, length of time, and geographic area, that best suits their needs;
- (3.) development of a "free market" in spectrum could result in more efficient use of this limited resource;
- (4.) streamlining the day-to-day management of spectrum and many spectrum-related functions now carried out by the FCC in other bands.

### **Business band management at 220 MHz**

On July 3, 2002, Access-220, LLC filed a re-

quest for a waiver of the FCC Rules in order to permit it to provide "business band management" services at 220-222 MHz. Basically they wish to lease (sell) 115 220-MHz licenses (channels) that are held by its parent company, Aerwav Spectrum Holdings, Inc. in much the same way that is now done at 700 MHz. The Commission circulated a *Public Notice* on August 6 requesting comments by August 26 on Access-220's request. Reply comments by Sept. 5.

There were not many comments filed, but most that did approved granting the waiver. For example:

**Industrial Telecommunications Association, Inc. (ITA, Arlington, VA)** is a membership organization consisting of more than 3,500 licensed two-way land mobile radio communications users, dealer organizations and trade associations. ITA supports the concept of a band manager in the 220-222 MHz band. "The band manager framework has shown to be an efficient way to license spectrum while maximizing its usage and value of the spectrum through a variety of users," ITA said

**Texas License Consultants (TLC, Houston, TX)** is a provider of communications equipment and services in the Houston, Texas area, including being an owner of 220 MHz systems.

TLC does not object to Access-220's request for a waiver, but is concerned that there may be a conflict between existing operations and the manner in which Access-220's assigns its spectrum as a band manager. "The operation of 220 MHz spectrum, in the manner proposed by Access-220, may



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cause harmful interference to narrowband co-channel licensees and/or adjacent channel systems," they said.

**The United Telecom Council (Washington, DC),** is the national representative on communications matters for the nation's electric, gas, and water utilities, natural gas pipelines and other critical infrastructure (CI) industry entities. It also supported Access-220's request for a waiver of the FCC's Rules to the extent necessary to provide band manager services on its current or future 220-222 MHz spectrum.

UTC said it is "...increasingly concerned about the lack of dedicated spectrum for use by the Nation's CI industries, as well as increasing congestion, noise and potentially life-threatening interference on the few available private land mobile radio (PLMR) bands available for their use along with other private wireless eligibles. With hundreds of thousands of licensees and tens of millions of end users on a shrinking amount of spectrum, all of private wireless, in fact, is in need of additional spectrum, as has been emphasized to the Commission for several years. Band manager licenses offer a partial solution to this problem."

"The establishment of band manager services in the 220-222 MHz band seems an appropriate marriage of excellent PLMR spectrum with a regulatory framework suitable for many end users."

**Motorola, Inc.** also strongly urged the FCC to grant the requested waiver sought by Access-220 which would permit them to operate as a band manager for selected licenses owned by Aerwav Spectrum Holdings, Inc. within the 220 MHz band. In Motorola's view, grant of the requested waivers will serve the public interest by permitting Access-220 to provide radio users additional flexibility, which will allow more efficient use of the 220 MHz band and fulfill one of the FCC's primary allocation policies."

## Dissenting comments

**Data Comlink, Inc. (DCL, Marietta, GA)** and its 20 partner electrical cooperatives and allied companies strongly opposed the granting of a waiver which would permit Access-220 to lease 220 MHz spectrum to others. It said this action could affect over 800 other electric power cooperative utilities across the United States.

DCL said they use two-way radio systems to provide efficient operation of our electric systems, as well as for use during emergency restoration of power. It said it did not support the approval of any waiver request that would permit anyone to effectively act as a band manager for the 220-222 MHz band. "...the current rules stipulate that the Commission is the regulatory body governing interference issues."

DataLink said they were concerned about "...adjacent channel interference from Access-220's channels with little recourse to fall upon" and that granting such waiver requests "...has been a recipe for disappointment and economic disaster" in the past.

"Like the Internet Service Provider (ISP) business, we see the movement for band management as a precursor

to Land Mobile Radio users having to become subscribers, just like Internet users. The difference is that there is no clear need for this activity, other than for the commercial interests of the band manager and a potential cost savings to the Commission."

## Radioamateurs not using 222-225 MHz

"The 220-222 MHz band has had a checkered past. Originally belonging to the Amateur Radio Service, this spectrum exhibits propagation characteristics that are advantageous for various kinds of operations. In our case, 220 MHz allows our utilities to communicate over longer distances than if utilizing 450, 800 or 900 MHz equipment, and with far less congestion and co-channel interference than found on the 30-50 and 150-174 MHz bands. In essence, this band provides rural electric cooperative utilities with an excellent option."

"We see two possible paths in which the Commission should consider," DataLinkcom said. "First, we believe that the FCC should consider auditing existing license holders in the 220-222 MHz band to verify if they either still exist as business entities, or if they continue to use the spectrum."

"Further, the spectrum at 222-225 MHz that is currently held by the Amateur Radio Service is being underutilized. In the early days of 220 MHz commercial regulations, Amateur Radio Service licensees argued that their spectrum was necessary and important in order to provide communications in the event of disaster or emergency. Although we take no issue with this claim, we do not feel that the 222-225 MHz band has been utilized as well as Amateur Radio licensees have claimed it would be by so-called 'no-code hams' in their efforts to keep a foothold in the 220 MHz arena."

"In nearly all but densely populated areas, the 222-225 MHz band is largely quiet. Only handfuls of individuals in the Amateur Radio Service even use this spectrum, while hundreds of thousands of potential commercial users wait with no alternatives."

"With the considerable commercial interest that Access-220, LLC has placed on the 220-222 MHz band by asking for its waivers, we feel that the spectrum held by the Amateur Radio Service would be much better utilized for commercial use. Existing 222-225 MHz radio system users are so few that the economic impact to those affected will be very minimal."

"Therefore, if the 217-220 MHz and the 222-225 MHz frequency bands were made available by the Commission for commercial use through modifications in Part 90 of the Commission's rules, up to 120 channels utilizing 12.5 KHz channel spacing could be created."

"Lastly, we believe that there are other ways to refarm the existing 220 MHz spectrum and to reallocate little or non-used spectrum above and below this band in order to maximize opportunities of all entities interested in this frequency band. This can be done in a technically feasible way and with little if any impact on adjacent frequency users."



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## LANCE BASS, NOW KG4UYY, CLINGS TO SPACE DREAM despite Russian Space Agency cancelling his contract.

Russia's space agency Rosaviakosmos on September 3<sup>rd</sup> ordered singer Lance Bass of the boy band 'N Sync to leave the Star City Cosmonaut Training Center outside Moscow, where he'd been since July. The expulsion came after the U.S. pop star's backers missed several deadlines to pay for his October ride to the International Space Station. He had been training for the past three months for the mission.

Lance Bass' actual name is James Lansten Bass. Born in Laurel, Mississippi, Bass now lives in Orlando, Florida. At 23, Bass would have been the youngest person ever in space. As a youngster, he attended a U.S. space camp in Florida.

Lance returned to Houston for a week long briefing at NASA's Johnson Space Center in late August which also included a crash course in ham radio. He passed the Technician requirements at an ARRL-VEC exam session and was assigned KG4UYY on September 5<sup>th</sup>.

Bass' training schedule requires that he learn NASA operations and hardware, meet flight controllers in Mission Control as well as past crew members who've lived on the station. He also received emergency and safety training in case of module depressurization or leaks, toured a full-size mockup of the ISS, and underwent simulator training.

When he returned to Moscow, the Russian Space Agency abruptly notified him that his training had been terminated due to non-fulfillment of the contract. Russian officials said that his flight is now "impossible" even if the money is paid at once. His space will be filled with a cargo container equal to his weight instead of a third crew member. The container will contain personal belongings for the current International Space Station crew and hardware for the Russian-built components of the station.

The reported \$20 million "ticket" was to have been paid by a consortium of companies rounded up by a Hollywood producer. But they never came up with the cash. There had been concern on NASA's part that the star was not properly trained for the flight. Cash-strapped Russia said it needed the fee to finance the changing out of the Soyuz craft now parked at International Space Station.

The Russian news agency TASS reported that Bass will be sent home with a bill for his training thus far, plus hotel accommodations. He would have been the third space enthusiast to pay his way into space after U.S. millionaire Dennis Tito, KG6FZX and South African Internet tycoon Mark Shuttleworth.

The October Soyuz taxi mission will now go ahead with Russian commander Sergei Zalyotin and Belgian ham/flight engineer Frank DeWinne: ON1DWN.

But, as Yogi Berra once said, "It's not over until it over." And the sponsors say that negotiations with the Russians are ongoing. The trip – which is being made into a blockbuster television mini-series called "Celebrity Mission: Lance Bass." – was arranged by Mir-Corp and produced by LA-based Destiny Productions.

They say they have a "big slice" of the money and it is in the process of being transferred. They were "confident he will still secure a seat aboard the Soyuz." Bass' supporters have blamed paperwork problems for the delay. Mir-Corp, a company that helps arrange space-related adventures, is partly owned by Russia's Energia Space Corp.

## REPLY COMMENT PERIOD CLOSES ON FCC PROPOSAL TO ADD NEW LF ANF HF HAM BANDS

All of a sudden the prospects for new low (LF) and high frequency (HF) bands don't look so hot ...at least, not as good as they did. The comment and reply comment period on ET-Docket No. 02-98 has now passed and the commercial sector and federal government basically don't like the idea. Hams, of course, are all in favor of it.

In response to three ARRL petitions for rulemaking, the FCC proposed on May 2, 2002 two new ham bands at 135.7-137.8 kHz and 5.250-5.400 MHz; to upgrade the Amateur Service allocation at 2400-2402 MHz from secondary status to primary status; and to add a primary allocation in that segment for the Amateur-Satellite Service.

The ARRL said the new bands were needed for low frequency experimentation and to serve as a bridge between the propagation characteristics of the 80 meter and 40 meter ham band.

The League stated that the 5 MHz allocation will fill a "critical propagation gap" that occasionally interrupts amateur radio emergency communications between the U.S. mainland and the Caribbean Islands during hurricanes and other severe weather-related conditions.

"...upgrading of the Amateur allocation at 2400-2402 MHz constitutes recognition of the importance of the Amateur-Satellite Service in the area of technical development," ARRL added.

### **The low frequency band**

Besides a LF band at 135.7-137.8 kHz, the League also asked for a LF allocation at 160-190 kHz. "These allocations will permit experimentation with equipment, antennas, and propagation phenomena in a small segment of the radio spectrum that has not been available to the Amateur Service for many years," ARRL said.

The FCC declined to approve the allocation at 160-190 kHz because Power Line Carrier (PLC) systems operate at up to 490 kHz on an unlicensed basis in the low frequency band. The unallocated and unlicensed Part 15 PLC systems are used by electric utilities to send control signals, data and voice. The League said it was urgent that the FCC "revisit that issue" prior to making a final decision on the low frequency allocations.

To facilitate sharing, the FCC proposed a power level at 35.7-137.8 lower than requested ...1 watt EIRP with a bandwidth of 100 Hz. The ARRL wanted a 2 watt level and called the lower limit "overly conservative."

More than two hundred comments were filed. The overwhelming majority of them were filed by supportive



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individual Amateur Radio licensees and groups. Approximately 8 comments, filed by representatives of the power utility industry, opposed the low frequency allocation on the grounds that it would interfere with their operations.

In their reply comments, the ARRL charged that concerns were "...rife with mistaken assumptions and outright misrepresentations about the interference potential to unlicensed, unprotected Power Line Carrier (PLC) systems in the band.

"The non-Amateur comments attempted to assert protected status for unlicensed RF devices regulated by Part 15 rules, as against a licensed radiocommunication service," ARRL said. "...not one offers any technical support for the concerns raised." The League said the FCC "...should disregard them outright."

The ARRL stated it "...is unwilling to merely accept, without technical support, the bare allegation that there may be interference to the relatively few unlicensed, unprotected PLCs that are operational in the proposed 2.1 kHz segment, or for that matter in the 160-190 kHz band." It also asked that they explain how they could have been operating in the same environment with a system formerly employed by the Air Force.

"Finally, it is incumbent on the utilities to explain how it is that they are in compliance with the requirement of Section 15.113 of the Commission's rules, which compels them to design PLCs so as to "...achieve the highest practical degree of compatibility with authorized or licensed users of the radio spectrum."

## The 5250-5400 kHz Band

"The proposed allocation of the 5250-5400 kHz band is, by contrast to the low frequency allocation issue, essentially uncontested," ARRL said in their reply comments. "There is no opposition in the record from any non-amateur source whatsoever."

But that was before the NTIA (the National Telecommunications and Information Administration) sent a dissenting letter to the FCC's Office of Engineering and Technology at the end of August.

Federal government use of the band is for ship-to-shore and fixed point-to-point communications. "Accordingly, Amateur operation must be able to protect these assignments against interference." The League agreed with the FCC that "Amateurs should be able to avoid interference to the small number of Federal, and the even fewer non-Federal, assignments in the band."

The ARRL made the following points in their Reply Comments.

(1.) It is not necessary to codify the "listen before transmit" protocol in the rules "...it is well-established that "listen-before-transmit" is good Amateur operating practice in the HF bands in particular, and such practices are required for all licensees and control operators by the Commission."

(2.) The 5 MHz band should be available to all licensees of General Class and above, ARRL said. "The Amateur

Service is most sensitive to the obligation to protect non-Amateur primary users, and the best evidence of that is in the successful sharing with fixed service licensees in the 10,100-10,150 kHz band." To limit access to the proposed 5 MHz allocation only to Amateur Extra Class "...would seriously compromise a fundamental purpose of the allocation in the first place: to provide a band that will be available for disaster relief and emergency communications. No other HF allocation is so limited."

(3.) "The band is unlikely to be densely used by the Amateur Service, given (a) the limited size of it and the fact that most commercially-manufactured Amateur equipment for that band does not permit transmissions on the band without modification; (b) that it is a domestic allocation only, and will remain such for the foreseeable future; (c) a fundamental purpose will be for disaster relief communications and emergency communications, which is not a principal interest of all Amateur licensees who actively operate in the HF bands, but only some of them; and (d) it is only one of what will be ten HF and Medium Frequency (MF) bands available simultaneously for Amateur operation."

(4.) On the issue of special power limitations in the 5 MHz band: The ARRL believes that the present rules are sufficient to discourage overpower operation. "...communications during hurricane conditions in the Caribbean require the flexibility to utilize higher transmitter power, since antennas in the subject areas may be compromised, makeshift affairs, and reliability of safety-of-life communications is a critical factor. It can also be anticipated that the communications will be conducted under potentially difficult propagation (i.e. high atmospheric noise) conditions, justifying the use of higher transmitter power."

(5.) On the issue of having mode subbands such as imposed on the 3.5 MHz and 7 MHz bands: ARRL believes subbands are "unnecessary and inappropriate" because "any segregation of wideband and narrowband modes by rule reduces the flexibility that Amateurs would otherwise have to conduct the type of operation that they wish to conduct in a portion of the band that they determine will not interfere with Federal assignments."

"Furthermore, the band is only 150 kHz wide, whereas the 3.5 and 7 MHz band are 500 kHz and 300 kHz wide," the League added.

The League said it would be developing a voluntary band plan for the 5 MHz allocation "...which, though voluntary, can be expected to have a reasonable degree of adherence by operators nationwide. This plan will take into account the need to avoid interference to Federal assignments first and foremost, but would otherwise encourage narrowband modes in one segment, and wideband modes in another."

"The final reason why sub-band regulation is inadvisable in this band in particular is that the band is to be used for general Amateur purposes, and especially for emergency communications. Emergency and disaster relief communications at HF are typically conducted using SSB voice emissions."

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## CUTTING EDGE TECHNOLOGY

**Japan has 500 autos in-use per square mile versus 58 per square mile in the US.** This higher density is a primary factor in the country's deployment and use of automated navigation, routing and traffic information.

Toyota is in the process of introducing a car voice-activated AI (artificial intelligence) communications system that learns from, and adapts to, the user.

The "G-Book" Internet telematics network offers all sorts of interactive services including music downloads, playing games, mobile e-mail, highway assistance, news, weather and e-commerce.

It also offers navigation and customizable information services ...such as flight schedules and stock market reports. For example, you can determine which restaurants your car is near and how to get there.

Toyota's internal Netcare Service, monitors the car's systems and gives directions to the nearest Toyota dealer if it detects a problem. In the future you will be able to activate home appliances on the way home from work.

Information such as navigational maps, basic software, music and games are stored in small digital cards. Updated information can be downloaded from terminals installed at convenience stores and gas stations.

G-Book operates through a communication module installed in the car which connects to a circular center console terminal with a 6.5-inch full-color touch-panel screen mounted on the dashboard. The always-on service is available in Japan for a flat-fee.

The network can send information either directly to the car or over the Internet to cell phones, personal computers and personal digital assistants.

Nissan, Honda, Mazda and Sony also offer automobile telematics systems. Japan is two to three years ahead of the United States in automobile telematics.

**Radio frequency identification (RFID) first appeared in tracking and access applications during the 1980s.** These wireless systems allow for non-contact reading of data. A basic RFID system consists of an antenna (or coil), a transceiver (reader with decoder) and a transponder (RF tag) which is electronically programmed with unique information

The antenna emits very low power radio signals to activate the tag and read and write data to it. When an RFID tag passes through the electromagnetic zone, it detects the reader's activation signal. The reader decodes the data encoded in the tag's integrated circuit (silicon chip) and the data is passed to the host computer for processing.

RFID tags are categorized as either active or passive. Passive RFID tags operate without a separate external power source and obtain operating power generated from the reader. Passive tags are much lighter than active tags, less expensive, and offer a virtually unlimited operational lifetime.

RFID systems are also distinguished by their frequency ranges. The chips broadcast on an unlicensed frequency. Low-frequency (30 KHz to 500 KHz) systems have short reading ranges and lower system costs. RFID smart tags come in a wide variety of shapes and sizes. The gas authorizing "speedpass" tag used at Mobile gas pumps is an example of an RFID tag.

**Drawing on their experience with contact-less "smart cards" and very short range radio technology,** two of the world's largest consumer electronics makers will join forces to enable new services. Japan's Sony and Philips from the Netherlands will develop a single, open RFID standard for use in a wide range of products such as cellphones, digital cameras, PDAs and handheld computers.

For example, consumers will be able to access personal information by waving their mobile phone or handheld computer in front of an office computer or an Internet terminal. The personal information could be e-mail or any other type of digital data. The radio chips typically sell for pennies.

Right now, there are not enough access points to convince consumers or businesses to use contactless RFID technology outside specific applications such as paying for highway tolls.

The two companies call their technology "Near Field Communication." NFC is a device-to-device communications technology where two devices will communicate with each other when they come within range. The technology should be commercial by early 2004 and will be made available to other electronics makers.

The companies say NFC could also play a key roll role in allowing content and service providers to offer various new ways

of accessing their services using a cell-phone as the smart key.

Applications, possibly authorized with a password or a voice or iris scan, will be worked out in conjunction with telecom operators and financial institutions. The market for smart cards could reach up to 4.5 billion cards by 2006, with a quarter of those being contactless.

## EMERGING COMMUNICATIONS

**Satellite radio spectrum was allocated ten years ago but it is just now getting going.** The Digital Audio Radio Service (DARS) operates in the "S" band at 2.3 GHz. XM Satellite Radio and Sirius Satellite Radio are the two digital satellite radio services offered in the U.S.

XM broadcasts through two satellites in a geostationary orbit. Sirius uses three satellites in inclined elliptical orbits with at least one satellite is over the U.S. at all times.

Rather than fade out after 30 miles from the station, both satellite radio services offer 100 channels of coast-to-coast CD-quality music, talk and news.

Cost for the XM signal is \$9.99 per month; \$12.95 for Sirius. (Sirius is \$3.00 more, but commercial-free.) Broadcasts are also beamed to ground repeaters for listeners in urban areas where the satellite signal often can not be heard.

Car manufacturers are installing satellite radio receivers in new cars and several electronics companies offer portable satellite radio receivers.

**Playboy debuts adult radio via satellite.** XM Satellite Radio has added "Playboy Radio" to its 100-channel lineup. It will be XM's first premium subscription channel and cost \$2.99 a month. "Night Calls" – an interactive call in program – will be hosted by 2 gals, Juli and Tiffany. <www.xmradio.com>.

**U.S. television universe expanded.** Nielsen Media Research has revised its estimate of the total number of American television households to 106.7 million from 105.5 million. This figure is important to advertisers who apply their share rating to the number of potential viewers to arrive at an audience figure. Thus, each national rating point will translate into 1 percent of that total, or 1.067 million TV homes.

**Lots more HDTV programs coming this fall.** ABC, CBS and NBC are



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dramatically increasing the number of broadcasts they do in high definition television.

CBS-TV said it will offer all of its 18 prime-time comedies and dramas in HDTV format beginning in September.

ABC plans to broadcast all its scripted series and theatrical movies for the 2002-2003 season in HD. ABC will also carry the Super Bowl (January 2003) in HDTV but not Monday Night Football. College SEC football games will be in HD.

NBC has confirmed that their "new filmed episodic programs" will be in HD-TV. The WB Network will transmit five hours of HD programming each week. PBS will transmit 4 to 5 new shows/documentaries a month in HDTV.

FOX seems to be the lone network that has not gotten the message. They do not broadcast any HDTV, but most Fox filmed episodic shows are available in widescreen 480p, also known as 16:9 EDTV or Fox Widescreen. It is basically standard definition on a wide screen.

**O**n August 23rd, Motorola introduced the Fireground Communications System, a new mobile communication system for firefighters in distress. The new system provides improved personnel monitoring, upgraded in-building radio coverage and increased incident command capabilities.

The new mobile communications system which includes a portable repeater, is designed so fire commanders can account for personnel at emergency scenes. Each system radio automatically reports the firefighter's name, position and assignment on a mobile command terminal. A firefighter can push an emergency button that activates an alarm on the mobile command terminal. The system also has an evacuation feature that allows a commander to all alert all radio users of immediate danger.

Motorola will roll out the Fireground Communications System in phases, starting in 2003 with features that improve on-scene and in-building communications coverage and personnel accountability. The second phase will include solutions for location tracking and a wireless Self-Contained Breathing Apparatus (SCBA).

**W**ireless text messaging is very popular in Europe and Asia.

Practically all wireless messaging in the U.S. is conducted by short-message service (SMS), which allows customers to send messages of up to 160 characters from one two-way messaging capable

wireless phone to another, or to any Internet e-mail address. Speed is important when sending and receiving text messages.

Verizon Wireless said its customers are sending and receiving more than 2 million messages every day, up 86 percent during the first quarter of 2002, compared with the previous quarter.

Favorite uses for text messaging include while at the movies; at loud sports games or concerts and at lectures or classes where a ringing phone is inappropriate or can't be heard.

Verizon Wireless quoted industry analysts as estimating the number of wireless messaging users in the U.S. will grow from 1.4 million last year to 15 million by 2004.

**M**ost of the 10,000 Internet-based radio stations have already — or will be — closing down because of a royalty fee that took effect in September. Only deep-pocketed Website radio stations such as Yahoo, AOL, Microsoft and a few others are expected to remain on the Internet.

The recording industry's interest in Internet radio is an adjunct to the file-sharing issues in its first copyright infringement lawsuit against Napster.

On June 20, a copyright appeals board set a rate of seven-hundredths of a cent per song, per listener. For many stations, that works out to thousands of dollars more than they make.

Furthermore, payments are due Oct. 20 for this year and are retroactive to 1998, which could add up to tens of thousands more in arrears. The fee applies to both commercial and non-commercial stations. The new fee — which traditional over-the-air radio stations don't pay since they supposedly promote record sales — goes to record companies.

Congressman Rick Boucher (D-Va) is spearheading a new bill (opposed by the Recording Industry Association of America) that would exempt small-time Web-based radio stations (companies with less than \$6 million in annual revenue) from paying the full royalty. More at: <<http://www.saveinternetradio.org>>.

## COMPUTERS & SOFTWARE

**W**ordPerfect (word processing) may be making a comeback.

Both Hewlett-Packard (which also owns Compaq) and Dell Computer have dropped Microsoft "Works" software from

their consumer PCs and switched to Corel's WordPerfect Productivity Suite.

Microsoft "Works" is a scaled-down version of the MS "Office" software. This is a major blow to Microsoft which currently owns more than 90 percent of the office productivity software market. HP and Dell are the No. 1 and 2 PC sellers in the world!

**T**he Incredible Shrinking Browser - Netscape share is now less than 4 percent worldwide, according to WebSideStory's StatMarket.

According to the study, Netscape browsers are losing market share to Microsoft's Internet Explorer at a rapid clip. A year ago, Netscape's global market share stood at 13 percent, but fell steeply to 7 percent by March 2002 as IE-6 gained popularity. It now stands at a new low of 3.4 percent.

Internet Explorer is unquestionably the standard tool for surfing the Web with a 96 percent market share, according to StatMarket. In the mid-1990s, Netscape was the dominant browser. The figures were compiled independently based on a random daily sample of 20 million visitors to thousands of Web sites.

**N**etscape, now a subsidiary of AOL-Time Warner, could dramatically increase its share if America Online uses Netscape as the basis of an integrated AOL Web browser. And AOL recently confirmed that it may do just that. There are more than 30 million AOL subscribers.

But Netscape still would have a difficult time increasing market share since, due to its dominance, Webmasters generally design their pages to IE's specs which have several proprietary features.

On September 1, Netscape released version 7.0 of its browser with better performance and new features. An event that was once a Web-wide event, today barely registers a ripple.

Netscape 7.0 can be downloaded at: <[www.netscape.com/browsers](http://www.netscape.com/browsers)>. New features in Netscape 7.0 include:

- A tabbed browsing interface that lets users keep track of multiple sites and pages simultaneously.
- A so-called click-to-search feature that lets users click on any word on a Web page and open a search sidebar window without leaving that Web page.
- Extra-speedy startup time.
- Built-in instant messaging with an integrated AOL Instant Messenger client.
- Integrated Netscape Mail, with



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features including click-to-search and new mail filters.

- A new Radio@Netscape music/radio client, powered by Spinner.

## GADGETS & GIZMOS

**Sony will introduce an intelligent Internet-connected hard-disk video recorder on November 1 in Japan** that has the ability to find and record TV programs it thinks its owner would like.

The recorder accesses programming information online and automatically records TV programs that matches preferences stored among 44 keywords. It can also analyze previous recorded TV programs to determine a user's tastes and automatically record upcoming shows that match a generated profile.

The recorder includes a 160 GB hard-disk drive which can record 15 hours of high-definition TV or up to 100 hours of standard quality programs.

It is not clear if and when the smart DVR – which will cost around \$1,000 – will be available to U.S. consumers.

**Think it, Ink it and Link it. Seiko has a new pocket-sized InkLink™ writing tool** that digitally captures handwritten notes and drawings and transfers to PDAs, handheld, laptop and desktop PCs. The InkLink™ Data Clip (which looks like the clamp at the top of a clipboard) works on ordinary paper up to legal size and easily clips onto 50 page tablets.

The Data Clip continuously listens for communications from the InkLink pen/stylus while it tracks the natural movement of your hand. As you write anywhere on the paper pad with the InkLink pen, the InkLink Data Clip reads precisely the location of the pen tip and communicates its exact position to your handheld, laptop or desktop PC.

The InkLink pen supports Palm®, Pocket PC and Windows® Operating Systems. To transfer the data, just plug the cable's mini USB into the InkLink Data Clip. \$99.95, comes with its own carrying case that fits in a pocket or purse. <<http://www.seikosmart.com>>.

## INTERNET & WORLD WIDE WEB

**Web users donate cash to help woman pay off shopping debts.** SaveKaryn is a website that asks for

help in paying off Karyn's huge credit card debt. And it is working.

Karyn, a twenty-something gal from Brooklyn, NY (no one knows her last name) has already received more than \$12,000 at her <[www.savekaryn.com](http://www.savekaryn.com)> website. It has received over 700,000 hits.

On June 23<sup>rd</sup> she owed over \$20 thousand. It is now down to around \$7,000. People can send her money or donate via a "PayPal" credit card payment account. The website has also led to the establishment of a (not so nice) Don't Save Karyn site by 'Bob and Ben' who disagree with her Internet panhandling. See: <[www.dontsavekaryn.com](http://www.dontsavekaryn.com)>.

**Ordering prescription refills on line is getting to be very popular.**

Walgreens.com, CVS.com, Drugstore.com all accept insurance and charge the customer the appropriate co-payment. All will ship the refills to you. You can also choose to pick up prescriptions at Walgreens.com and CVS.com companies' stores.

**AT&T Broadband's new UltraLink service – offering high speed broadband Internet connections up to 3 megabits per second downstream and 384 kilobits per second upstream – is now available in Cleveland, Dallas; Denver; Pittsburgh, Richmond, Va, Salt Lake City; the San Francisco Bay area; Seattle, St. Paul, Minn.; and select areas in the company's Michigan and Rocky Mountain markets.**

Cost is \$79.99 per month for customers who own their modems and \$82.99 for those who lease modems. The original broadband service offers up to 1.5 mbps downstream and 256 kbps upstream. Customers who own their modems pay \$42.95 monthly for the service, while those who lease pay \$45.95. Next up on the launch list for UltraLink are Chicago, central California and the Northeast markets.

AT&T Broadband also has a lower-tier service on the drawing board, with plans to test that service later this year.

**Several companies have introduced smart-home products recently and sales of intelligent Internet-connected hardware should reach \$4.7 billion by 2005.**

Examples include the capability to deactivate a home security system and unlock the door to let in an appliance repairman, receiving an alert through a pager or mobile phone that basement sensors have detected a flood (a smart-home system also could send e-mail to the near-

est plumber requesting repair service), the capability to turn off small appliances, such as an iron left on accidentally by phoning a special number and remote control of air conditioning and lights when you're away from home. A futuristic refrigerator with smart technology can uncover a problem through a self-diagnostic test and call a repairman.

**IBM is rolling out a new payment system that lets students wash clothes at a dormitory laundromat without using quarters.**

The Internet laundry system, called eSuds and developed by IBM and USA Technologies, lets consumers use a credit card or punch a code into their cell phones to pay for washing or drying their clothes. Some 9,000 washing machines and dryers at U.S. colleges and universities are being connected to the Web.

An eSuds website gives students a virtual view of the laundry room so they can determine if there are empty machines. Even soap and fabric softener can be dispensed into the washing machine by the student from their PC.

When the wash is done, an e-mail or pager message is sent advising the student to come and get it. Now if modern technology could only develop a system to collect, load, unload, fold and deliver the clothes....

The system also lets washer/dryer owners monitor machine performance, do some maintenance and check usage online. The chance of vandalism is also cut down because no cash is sitting in the machine. Check out: <[www.e-suds.net](http://www.e-suds.net)>.

**Chinese government blocks two U.S. search engines to create "sound atmosphere and healthy media environment."**

In an effort to tighten subversive Websites, the Google and Alta-Vista search engine have faded from Chinese computer screens.

The move comes ahead of the 16<sup>th</sup> Communist Party Congress which begins November 8. The meeting is expected to begin shifting power to a new generation of leaders.

Google is hugely popular among China's 45 million Internet users because of its wide-ranging search capacity and the fact that it can run Chinese-language searches. It is widely used by scholars, researchers and reporters who rely on Google for their work. Alta-Vista was blocked from Chinese PCs a week after Google.

China controls the flow of information by regulating the eight Internet



gateways entering the country. It requires ISPs to block certain material, a system that has been called "The Great Firewall."

While China promotes the Internet for economic use and to spread the government's views, it routinely prevents users from reaching sites run by human rights groups and some foreign news organizations.

The dissident China Democracy Party based outside the country said Google was being blocked because of its system of cached (stored) pages which are being used to get to Web pages that are blocked in China.

Police monitor chatrooms and email and erase online content considered undesirable. But many Chinese surfers find ways around the blocks by using "proxy servers" - Websites abroad that let users reach blocked sites. Such techniques are routinely posted online in China or exchanged in chatrooms. Other people find ways around government censorship by forwarding e-mail messages from abroad.

Yahoo's Chinese website, which uses Google's search technology, said it was not affected because it has agreed to purge Web content that China's communist government deems subversive.

**MovieLink, a planned Internet-based movie rental venture of five major Hollywood studios,** selected IBM to operate the service. Films will be distributed with software which prevents customers from copying the films or viewing them for more than 24 hours. The firms see a multibillion-dollar market, based on estimates that 13 million households and 10 million college dorm rooms have high-speed D.S.L. or cable modem links. Should be operating by December. <www.MovieLink.com>.

Another Internet movies-on-demand service, CinemaNow Inc. is already operating at: <www.CinemaNow.com>

## WASHINGTON WHISPERS

**A**ccording to the FCC, for the first time in several decades, the total number of business and residential telephone lines declined last year - to 192.3 million at year's end from 192.6 million a year earlier.

A reason contributing to the decline is that many consumers have dropped second lines as they switched to cable modem or DSL for Internet access. But many consumers, especially single people, have abandoned land-line telephones alto-

gether in favor of wireless cell phone service.

Nearly 3 percent of telephone users have made wireless phones their primary telephone, according to the Yankee Group, a telecommunications consulting company in Boston.

**A respected international privacy group, Paris-based "Reporters without Borders" reported in a published study** that the September 11 terrorist attacks have had a enormous impact on Internet freedom and open access to information. Many countries, including the United States, have enacted new laws that challenge cyber-freedoms. ISPs and telecommunications companies are now a potential arm of the police.

"Carnivore," devised by FBI experts, is the first major electronic surveillance software to be used by a government. When installed on an ISP, it can record and store all the messages sent or received by an ISP's customer.

A law known as the Combating Terrorism Act, passed urgently by the Senate on 13 September, two days after the attacks, allowed U.S. intelligence to use it without having to seek approval.

Enacted a month after the terrorist attacks, the U.S.A. Patriot Act lets the FBI monitor e-mail traffic of people suspected of contacts with a foreign power, but messages from innocent private citizens are also intercepted ...all without first securing a warrant.

The report also mentions the FBI's "Magic Lantern" eavesdropping software. Installed over the Internet on a PC without a user's knowledge, it records every keystroke including passwords. The so-called "sniffer keystroke logger" is planted on a target's PC by secretly embedding the program in another message sent over the Internet.

Since Sept. 11, many federal and state government agencies have removed documents, maps and other resources from the Internet out of concern the materials could aid terrorists.

The U.S. justice department also reserved the right to prosecute Internet "hackers," whether or not they were Americans or living on US territory. The DOJ argues that since most Internet traffic passes through the United States, they will pursue anyone, anywhere in the world, who breaks U.S. cyberspace laws as soon as the hacker's electronic "crimes" passes through U.S. channels.

**In the U.K., police are monitoring financial transactions and private**

**e-mail online.** French judges can order e-mail messages to be decoded and encryption firms to hand over their codes. German law now allows its Government unlimited access to the police database and increased access to telephone and Internet records. Italy eased rules for Internet surveillance.

India's government may monitor e-mail without prior permission. Saudi Arabia routinely monitors e-mail and online content. China trains its police officers to fight a war against online anticommunist articles. Cybercrime in China is punishable by the death penalty. North Korea is the only country in the world totally without Internet access by government decree.

Another telephone-based study by Pew Research finds that half of Americans are opposed to the government being able to monitor e-mail and Web activities.

Read the entire "Reporters without Borders" report at: <<http://www.rsf.fr>>

**The General Accounting Office, the investigative arm of Congress,** reported that the Bush administration's oversight of U.S. export restrictions on technology was poor and that they failed to conduct adequate background checks on thousands of immigrants seeking permission to work in the U.S. with sensitive technology that hostile nations could use to develop new weapons. GAO investigators found more than 150 alien applications that warranted closer scrutiny. A better tracking system will begin operating by December.

## AMATEUR RADIO NEWS

**C**itizens Band enthusiast William "Rabbit Ears" Flippo, a resident of Jupiter, Florida has been sentenced to 15 months imprisonment and fined \$25,000 for unlicensed operation on ham radio frequencies and intentionally interfering with ongoing Amateur Radio communications.

Flippo had previously been fined \$20,000 by the FCC for unlicensed operation on 28.375 MHz, malicious interference to ongoing ham radio communications and with failing to let FCC representatives inspect his radio equipment. But this did not stop his illegal activity.

The United States Attorney's Office for the Southern District of Florida charged Mr. Flippo with four counts of unlicensed radio operation and four counts of interfering with licensed radio stations



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which he allegedly committed between June 8, 1999, and April 11, 2000. The United States Marshals Service arrested Mr. Flippo at his Jupiter, Florida home in July 2000 and also seized his radio transmitting equipment.

The trial began June 10, 2002, and ended June 19, 2002, with the conviction on all eight counts. Flippo was remanded into custody pending the sentencing hearing. Following completion of his 15 month sentence, Flippo will be required to serve a one year period of supervised release.

The conviction is the result of an investigation that began in November of 1998. The Commission's Tampa Florida Office received complaints from the Jupiter-Tequesta Florida Repeater Group, a 70-member amateur radio club alleging that Flippo was intentionally interfering with their communications on two different radio bands.

**S**teven R. Decho KE6FX, (Draper, UT) was warned six months ago that his uncoordinated repeater system operating on 447.250 MHz in the Los Angeles area was interfering with WA6UZS, a coordinated repeater. The FCC said his repeater was apparently being operated 10 kHz away from WA6UZS, sometimes operated in a beacon mode and sometimes identified every ten minutes 24 hours a day without input.

In August, the FCC notified Decho that there were also reports of dead carriers that lasted for weeks, a tone that lasted continuously for three weeks, week-ends of 2 meter repeater rebroadcasts and a repeating CW identification that lasted for weeks ...all with no apparent control operator. Decho was notified that he was responsible to prevent the interference and that failure to do so would result in enforcement action.

On September 4, the FCC ordered the KE6FX repeater operation immediately shut down until Decho either obtains current coordination or submits a detailed, specific acceptable plan to prevent interference to WA6UZS. "Failure to shut down will result in enforcement action against your Amateur license for KE6FX, against any control operators of KE6FX, and may include revocation and a monetary forfeiture. Monetary forfeitures in these situations range from \$7,500 to \$10,000, FCC said.

**G**ary E. Hunter KG4FRN, (Baxter, GTN) has had his General Class license cancelled by the FCC. He had been ordered to retake the necessary license examinations since one of the administer-

ing VEs at his examination session on March 11, 2000, in Cookeville, Tennessee, was his brother, Steven Gregg Hunter, KF4FAV. Hunter failed to appear for re-examination.

**E**dwin O. Martinez KE4VDT, (Cumming, GA) also had his license cancelled for failing to appear to retake Technician Plus Class license examinations at an FCC office before August 15, 2002.

**T**heodore F. Crutchfield K4TFC, (Martinsville, VA) had been required by the FCC to retake the Element 1 exam (code test) which he failed. As a result, his Extra Class license was downgraded to Technician. Five days after the FCC notified Crutchfield of the downgrade, he passed the telegraphy exam. The FCC has reinstated his Extra Class license.

**D**avid R. Nihart, Jr. WD4IMI, (Petersburg, VA) has been directed by the FCC to respond within 20 days to a complaint regarding his operation on the 75 Meter band. "The complaint relates to use of a call sign not assigned to you, interference, and slander."

**J**ohn H. Jones KC0GBP, (Davenport, IA) has been directed to respond within 20 days to a complaint against his station charging one way transmissions, interference, profanity and obscenity on the W0BXR repeater on August 5, 2002. He was also asked to clarify s address in the FCC database.

**T**erry L. Nixon WB0VQP, trustee of the Davenport (Iowa) Amateur Radio Club has been directed by the FCC to explain the apparent lack of a control operator on August 5, 2002 in conjunction with the above complaint. Nixon is to notify the FCC within 20 days of the identity of the Control Operator on that date and the method of controlling the repeater.

**C**heetah Transportation Company of Mooresville, NC has been notified by the FCC that monitoring information indicates that one of their drivers was apparently operating unlicensed Amateur Radio transmitting equipment on 28.085 MHz, on Interstate 77 in South Carolina, on June 5, 2002. Such unlicensed operation subjects the operator to a fine - normally ranging from \$7,500 to \$10,000 - or imprisonment and seizure of the radio transmitting equipment. The firm is to contact the FCC.

**C**liff Evans (Salem, Oregon) and Jeffery Everett (Santa Monica,

CA) were also sent similar FCC Warning Notices concerning their apparent unlicensed radio operation. The FCC said that "...you, or someone in your residence, has been operating Amateur Radio transmitting equipment without a license on Two Meter repeaters in your area" and causing deliberate interference. Both are to contact the FCC.

**D**an L. Fry KE6AXK, (Garden Grove, CA) was warned that "monitoring information before the Commission indicates that you were deliberately interfering with the N6SAP repeater system on 146.400 MHz on August 18, 2002 at 11:30 a.m." Continued incidents subjects him to license revocation proceedings as well as a fine which could range up to \$10,000. He was also asked to correct his address in the FCC database.

**J**ean M. English KC6VLG (Vacaville, CA), Thomas R. Husted KD6RXH (San Jose, CA), Steven R. Rossi KE6LNH (Novato, CA), David A. Roy KB6HLR and Gordon A. Langstaff N6RUE (San Lorenzo, CA) were all sent FCC Advisory Notices notifying them that monitoring of their communications indicates violations of the station identification rule which "...requires identification at the end of each communication and at least every ten minutes during a communication." They were asked to review that rule.

**J**ack Chambers, CEO of the Texas New Mexico Power Co. headquartered in Fort Worth, TX was notified that the FCC "has received complaints that equipment operated by your utility may be causing harmful radio interference to an operator in the Amateur Radio Service. The complainant is James Brown, W5ZIT of Ruidoso, NM."

The power utility company was advised that Part 15.5 requires that incidental radiation must not cause harmful interference to an authorized radio station. The rules provide that "The operator of the radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected." The utility company is to locate the source of the interference caused by its equipment and make necessary corrections within a reasonable time. W5ZIT is to be advised within 30 days of the steps being taken to correct the problem. It was also suggested that the ARRL may be able to assist.



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## Letter from NTIA

On August 29th, the FCC's *Office of Engineering and Technology* received a letter from the *National Telecommunications and Information Administration*. NTIA is the White House advisor on telecommunications matters and regulates radio spectrum allocated to the federal government. The letter said it opposes the secondary allocation for the Amateur Service at 5250-5400 kHz. [Quote:]

"HF bands are currently used extensively by federal agencies for emergency services, including communications support for the Dept. Of Defense, Coast Guard operations, Dept. Of Justice law enforcement, and back-up or emergency uses by twelve other agencies. NTIA believes the Commission's current proposal does not adequately provide for the protection from harmful interference to these critical government operations primary in this band."

"Federal agencies need immediate access to these HF frequencies in times of emergency. The Commission's proposal does not offer any procedure for a federal agency to immediately reclaim a frequency for emergency use once amateur operations have been established nor would the Commission's existing interference complaint process resolve interference to federal emergency operations in real time. Moreover, amateur operators using some of the modes of operation proposed in the NPRM may not be able to hear or recognize a federal station's attempt to communicate because of the difference in modulation types, thus the 'listen before transmit' protocol proposed to be used by amateur operators would not avoid causing harmful interference in all instances, and may prevent federal stations from establishing communications."

"Some federal agencies utilizing this portion of the HF band have automatic link establishment (ALE) systems that sample channels periodically to determine channel availability. Amateur operations on these channels would preclude ALE systems from sampling a channel successfully for the necessary propagation data for the channel, thereby eliminating an otherwise usable channel, or possibly the best channel, from the agency's frequency list."

"Some Coast Guard operations in this frequency band are from small boats that may be engaged in search-and-rescue operations. In general, these boats have low power systems with less efficient antennas than many amateur operators on 1.5 kW stations with gain antennas. Thus, the boats may be forced to use less optimal frequencies to perform their search-and-rescue missions if an amateur station is otherwise using the HF channels in this band."

"Without an fuller understanding of the potential for harmful interference to these federal operations, NTIA believes that adding a secondary allocation for the amateur services in the 5250-5400 kHz portion of the HF band is premature. NTIA will work with the federal agencies, the Commission, and the amateur radio community to determine whether some future accommodation of the amateur service in this portion of the band would be possible, in-

cluding consideration of limits on radiated power or emission types, reduction of the proposed allocated bandwidth, use of discrete frequencies rather than a band of frequencies, geographic restrictions, or other means to mitigate potential interference." [End quote]

The ARRL said they have been long aware of the concerns registered by the federal government but "...were surprised by the tone of the NTIA letter." Chris Imlay W3KD, ARRL General Counsel, said he did not know how seriously the FCC would take NTIA's late filed comments. "We're in the process of expediting coordination arrangements and other means to identify and satisfy NTIA's legitimate concerns," he added.

## The 2400-2402 MHz Band

The principal benefit of the allocation status upgrade at 2400-2402 MHz from secondary to primary and to create a primary allocation there for the Amateur-Satellite Service "...is to provide some protection and assurance of future availability for the Amateur-Satellite service," ARRL said in their reply comments.

"Amateur satellites are funded using the private resources of individual Amateurs and Amateur groups. It is a struggle to accomplish what the *Radio Amateur Satellite Corporation* (AMSAT) has been able to achieve. Amateur satellite operation represents some of the greatest achievements of the Amateur Service, and the work of AMSAT volunteers is always at the forefront of communications technology. There has to be a reasonable assurance that an allocation will continue to be available for Amateur Satellite Service use into the future, since planning in that service is long-term."

The League noted that the 2400-2450 MHz band "...is compromised in terms of Amateur use by virtue of the explosive increase in noise from unlicensed devices. However the problem is less pronounced at the lower end of the band."

The ARRL said the FCC's "...request for 'comment on whether the proposed primary amateur and amateur-satellite service allocations would conflict with unlicensed use of the band.' makes no sense. The Amateur service is a licensed radio service which now has allocation status in the 2400-2402 MHz band. Part 15 devices operate there without any allocation status. Part 15 devices cannot continue to operate (on an individual device basis) where interference is caused by that device to any licensed station, by rule. The change in the allocation status of the Amateur Service or Amateur-Satellite Service from secondary to primary can therefore have no effect on the unlicensed use of the band, because the obligations of unlicensed Part 15 devices to both accept and not cause any interference does not change under any circumstances."

"ARRL continues to remind the Commission that it cannot make allocation decisions involving incumbent services based on concerns about unlicensed services without allocation status."